

## The Claims

1-13. (Cancelled).

14. (Original) A performance simulation system for simulating performance of a computing system including a resource configuration, the performance simulation system comprising:

a sequence processor capable of receiving a resource topology tree describing the resource configuration of the computing system;

a calculation module calculating an aggregate resource requirement associated with the resource in a simulation interval and calculating a system event horizon for the simulation interval based on a resource usage state change in the computing system; and

an interval module adjusting the aggregate resource requirement based on the computing system event horizon to provide an adjusted aggregate resource requirement for the resource, wherein the adjusted aggregate resource requirement represents the amount of the resource consumed during the simulation interval.

15-19. (Cancelled).

20. (Currently amended) A method of determining an amount of a resource consumed during a simulation interval in a performance prediction simulation of a system, the method comprising:

calculating an aggregate resource requirement associated with the resource in a simulation interval;

calculating a system event horizon for the simulation interval based on a resource usage state change in the system; and

adjusting the aggregate resource requirement based on the system event horizon to provide an adjusted aggregate resource requirement for the resource, wherein the adjusted aggregate resource requirement represents the amount of the resource consumed during the simulation interval;

wherein the system includes a resource configuration, and the method further comprises receiving a resource topology tree defining the resource configuration of the system, wherein the resource is specified by the resource topology tree.

21. (Original) The method of claim 20 further comprising:

advancing a simulation clock to the system event horizon to start a next simulation interval.

22. (Canceled).

23. (Currently amended) The method of claim 20[[22]] wherein the resource topology tree specifies at least one active resource.

24. (Currently amended) The method of claim 20[[22]] wherein the resource topology tree specifies at least one passive resource.

25. (Original) The method of claim 20 wherein the operation of calculating an aggregate resource requirement comprises:

receiving one or more resource requirement contributions from one or more hardware models, each hardware model representing a resource associated with a resource contention timeline; and

combining the resource requirement contributions from the one or more hardware models to provide the aggregate resource requirement.

26. (Original) The method of claim 25 wherein the combining operation comprises:

adding the resource requirement contributions together.

27. (Original) The method of claim 25 wherein the combining operation comprises:

performing a bitwise OR operation on the resource requirement contributions.

28. (Original) The method of claim 20 wherein the operation of calculating a system event horizon comprises:

determining a minimum event duration of active events to provide a resource event horizon;

determining a workload event horizon based a start time of a newly activated event; and

selecting an earlier one of the resource event horizon or the workload event horizon to provide the system event horizon.

29. (Currently amended) The method of claim 20 wherein the operation of calculating a system event horizon comprises:

passing an aggregate resource requirement to a hardware model to determine a duration of an active event;

calculating ~~calculates~~ in the hardware model the duration of the active event based on resource contention defined by the aggregate resource requirement.

30. (Original) The method of claim 20 further comprising:

creating a resource contention timeline entry storing the adjusted aggregate resource requirement, an identifier of the associated resource, and a start time; and  
inserting the resource contention timeline entry into a resource contention timeline corresponding to the associated resource.

31. (Original) The method of claim 30 further comprising:

presenting the resource contention timeline on a video display in a graphical format.

32. (Original) The method of claim 30 further comprising:

presenting the resource contention timeline on a video display in a text format.

33. (Canceled).

34. (Currently amended) A method of determining an amount of a resource consumed during a performance prediction simulation of a system, the method comprising:

defining a resource configuration of the system to include at least one resource, wherein a hierarchical resource topology tree specifies the resource configuration;

associating the at least one resource with a resource contention timeline;

calculating an amount of the resource used during one or more simulation intervals of the performance prediction simulation; and

inserting a resource contention timeline entry for each of the one or more simulation intervals into the resource contention timeline, each resource contention timeline entry specifying an amount of the resource used during the simulation interval associated with the resource contention timeline entry.

35-45. (Canceled).